EDITORIAL

University museums

FERNANDO BRAGANÇA GIL*

What should a university museum be? My pondering over this matter dates back for thirty years, both as a university professor and as someone interested in Museology, especially museology of sciences. Through these years I tried to demonstrate – by thoughts and practice – the reciprocal interest of the integration of museums in universities. University museums therefore acquire a certain specificity within the general museum panorama that entirely justifies the creation of this new international committee of ICOM, the 'University Museum and Collections' (UMAC), aimed at uniting these museums and reflecting on their common problems. It is true that each university museum can join the particular ICOM's committee that better corresponds to its speciality; however, considered altogether, university museums transversely 'cross' all committees.

We can try to answer the question above, 'what is a university museum?' by stating the obvious and simple: a university museum is a museum that has a dependency tie with a university. In fact, universities that possess heritage of general interest, whether artistic or scientific in nature, should have the right – and the duty – to create their proper museums, providing the necessary conditions for the preservation, study and public fruition of this heritage by several means, of which the most common is the exhibition. However, this obvious and simple definition of a university museum is merely administrative and does not fully account for the distinction between these and their state-owned national or local, or even private, counterparts.

With the growing interest that science gained since the end of the 17th century, universities began to create their own museums as a complement for teaching and research, especially in the different areas of natural history. In reality, the existence of as extensive and complete as possible collections of life sciences and geology specimens proved essential

* Fernando Bragança Gil is Director of the Museum of Science of the University of Lisbon and Editor of *Museologia*. Address: Museum of Science of the University of Lisbon, Rua da Escola Politécnica 56, 1250-102 Lisboa, Portugal. E-mail: fbgil@museu-de-ciencia.ul.pt.

when the research purpose of natural sciences was focused on marcoscopic natural variation. Natural history university museums were therefore among the very first museums in Europe and America.

In Portugal, the first officially created museums were also of natural history: i) the royal cabinet created in 1772 in the Palace of Ajuda, Lisbon, for the education of the princes José and João (sons of Queen Mary I), which included a botanical garden and a physics cabinet; and ii) the museum that started to be created in the University of Coimbra, one year later, as a consequence of a profound curricular reform. While the latter had a university character since its foundation , the former only became university *strictu sensu* when part of the royal cabinet collections were integrated in the Polytechnic School, created in Lisbon in 1837 and consequently, in 1911, in the Faculty of Sciences of the University of Lisbon[1]. Similarly to their counterparts abroad, these museums, and particularly the Lisbon museum, remarkably contributed during the late 18th and 19th centuries, to the inventory of Nature, by means of identifying and describing the new species brought home by the explorers of the Portuguese colonies in Africa, Asia and Brazil.

The relevance of natural history museums and their ties with the academic institutions increased after Darwin's contribution on the evolution of species, the study of which required the existence of collections as extensive and diversified as possible. On the other hand, the generalisation of culture aroused in citizens a considerable curiosity for the contemplations of the objects from Nature, which contributed, to a great extent, to the popularity of natural history museums. Meanwhile, at a slow pace, a certain conflict of interests between scientists and public visitors started to emerge. The public, in their majority, visited the museums motivated by the curiosity and pleasure of contemplating the products of Nature, particularly if they were exotic and therefore inaccessible to the layman. Scientists considered the museum as their 'working place', where they could find and study the objects they were scientifically interested in. Thus, exhibitions displayed collections as complete as possible, organised and preserved according to scientifically correct procedures to enhance object research. Simultaneously, common visitors became more and more bored with the immense galleries with shelves full of apparently a lot of the same specimens.

A few pioneers in the field of museology of sciences reflected on the conciliation of this contradiction and a major transformation in natural history museums occurred in 1891 with the construction of the natural history museum of Berlin. The conception of Berlin's museum was based in Moebius' theory, previously tested at the Zoology Museum in Kiel. Moebius's ideas were based on the principle of separation between the scientific collection and the display collection. While the former is aimed at research and should therefore be as extensive as possible, the latter should consists of a selection of the most representative specimens (or replicas) from the scientific collection, aimed at a lighter and more convenient approach by non-specialists.

Between the last quarter of the 18th century and the first half of the 20th century, natural history museums were places of scientific excellency, both for undergraduates and graduates – hence the natural association between museums and universities as far

[1] Today, the National Museum of Natural History enjoys full autonomy from the Faculty of Sciences and the same happens with the Museum of Science, created in 1985. These institutions are the two museums of the University of Lisbon.

as the natural sciences are concerned. Meanwhile, in the mid-20th century, new types of biological research (having the cell and the molecule as a research unit, rather than the animal as a whole) drastically diminished the importance of natural history museums as fundamental research centres. However, object based observation and study is still relevant, particularly as far as the applications of biological and geological sciences are concerned. And let's not forget the doubtless importance of displaying biodiversity, both of existing and extinct species and of materials – minerals and rocks – that exist on earth.

Museums of natural history therefore have an important role to play in pure and applied research, despite the diminished role of Taxonomy and Systematics in some biology and geology university departments. There is a clear reciprocal relationship between natural history museums and university departments and obviously these museums should stay in universities.

So far I only considered the importance for the university of scientific research conducted in natural history museums. However, we still need to consider their importance in undergraduate teaching, particularly university training of future secondary schools teachers. Even if scientific knowledge becomes more and more specialized, it does not seem acceptable, to say the least, that younger generations only study an animal or a plant through their cells, or a mineral through their crystalline structure. Natural history museums are the places where *macroscopic objects* from nature are preserved, studied and displayed and their visit should be promoted among undergraduates, particularly future biology and geology teachers.

We should also take into account another role of university museums included in the broader field of university social responsibility: the generalisation of scientific knowledge among the general public and particularly the promotion of scientific interest and curiosity among the youth. We will come later to this point, when we mention the institutions that, according to ICOM, are designated 'museums of science and technology'. These museums were originated in the 19th century and have experienced an extraordinary growth in the past decades. Usually, they can be *grosso modo* grouped into two types, here designated for the sake of simplicity 'contemplative/historical' and 'participative/interactive'. The latter, the 'science centers', have known immense popularity – and the consequent multiplication – due to their entertaining and potentially educational role[2]. In spite of modest – I would almost dare to say 'ashamed' – attempts to integrate the two exhibition philosophies and consequent achievement of unified science and technology museological entities[3], science museums and science centers are evolving separately and almost seem to ignore each other.

Museums of science have their origin in scientific and technological instruments that became obsolete and were replaced by more modern ones. The memory of these objects is preserved through rigorous selection and consequent incorporation in a museum. University teaching and research laboratories are excellent sources for collecting representative scientific equipment, as long as there exists a museum

[2] The real educational role of science centers and their relevance in promoting scientific literacy is still a matter of discussion, especially in view of the way they are currently presented and used.
[3] Since 1988, the author has extensively written on this subject. For a text in English, cf. Bragança Gil (1998).

and specialists to help the selection, incorporation and preservation processes. In fact, the selection of 19th century (and older) scientific instruments is quite simple, but the same does not happen with more recent objects, especially those still in use. Collecting of contemporary equipment requires knowledge and training – we should not forget that the present will soon become past and contemporary scientific and technical equipment are potential museum objects.

Several universities realised the importance of creating museums of science and the Museum of the History of Science of the University of Oxford, the Whipple Museum of the University of Cambridge or the Museo di Storia da Física of the University of Padua are major examples. In Portugal, historical museums of science were also created in the Universities of Lisbon and Coimbra. The Physics Museum of the University of Coimbra (fig. 1) – with its 18th century instruments collection – has a close historical link with the Pádua Museum[4]. In fact, Physics was taught for the first time on a regular basis in Portugal by Giovanni Dalla Bella, former professor in the University of Padua. Dalla Bella began teaching in Lisbon at the College of the Nobles and was later transferred to the University of Coimbra.

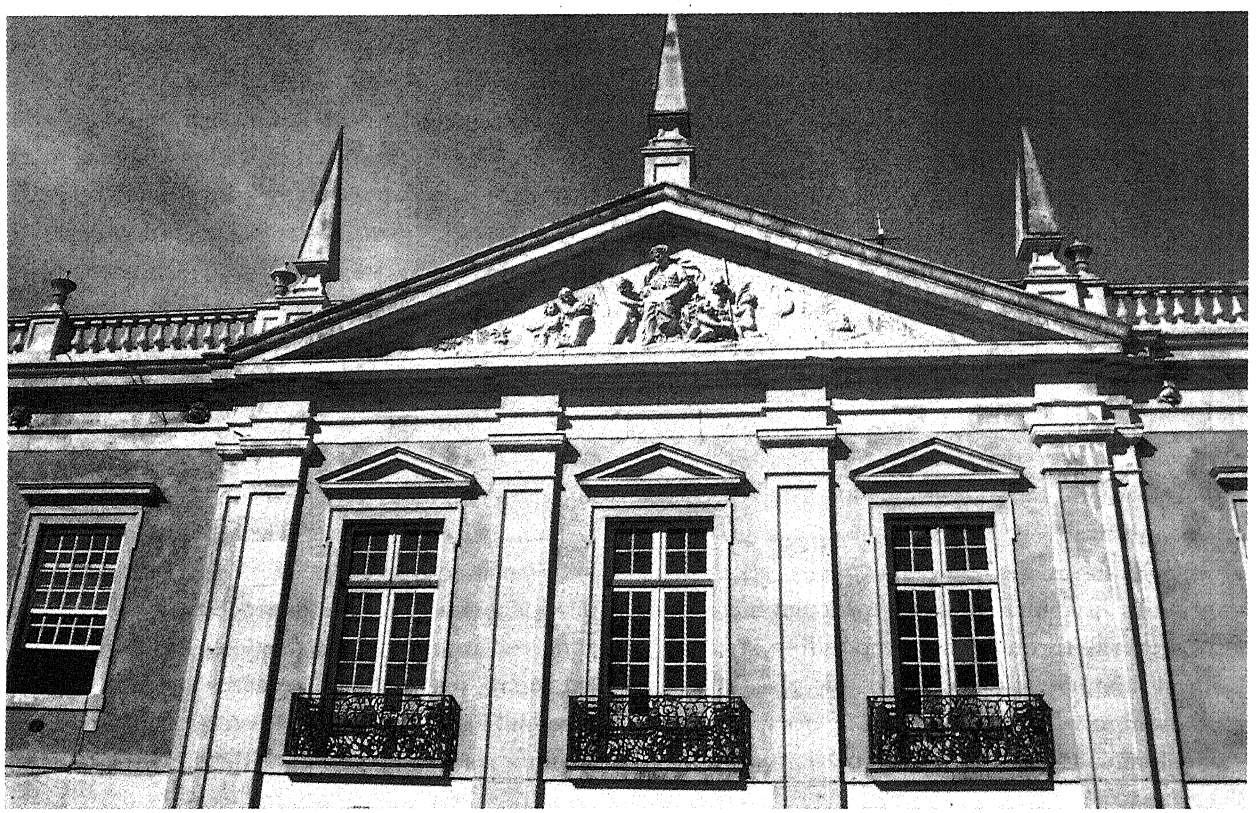

Fig. 1 – Detail of the façade of the so-called 'Museum Building' of the University of Coimbra, where the Natural History Museum and the Museum of Physics are located (Photo: F.B. Gil).

[4] Cf. www.fis.uc.pt/museu/index.htm (Museu de Física da Universidade de Coimbra).

In these two institutions he created a Physics cabinet and he draw much from his former Padua's experience in his work. At the University of Lisbon, the Museum of Science[5] has a collection of scientific equipment, mainly originating in the 19th century Polytechnic School.

The collecting of equipment to be incorporated in a historical museum of science requires the close collaboration of specialists from three domains: scientists, historians of science and museologists. I consequently ask: Is there a more adequate place to gather, promote dialogue and fruitful work among these specialists than a university museum? Scientists and historians work in universities – it's their natural working place. Museologists are sometimes part of the museum staff or the university museology department, assuming this exists[6]. The museology department should participate in the creation of the museums of the university – or their renovation, if

Fig. 2 – Façade of the former Polytechnic School, currently hosting the two museums of the University of Lisbon: the Museum of Science and the National Museum of Natural History (Photo: F.B. Gil).

5 Cf. www.museu-de-ciencia.ul.pt (Museu de Ciência da Universidade de Lisboa).

6 Museology is a field of knowledge still undervalued in the majority of universities, probably because traditionally museum staff training derived from professional practice in museums. However, the growing complexity and diversity of the 'museological phenomenon' necessarily lead to in-depth university teaching and research. Needless to say, such teaching and research should take place in specially created university departments.

they already exist – together with directors, curators and other departments directly related to the disciplines represented in the museums. This potentially rich interdepartmental collaboration in the creation and use of museums is one of the reasons justifying the existence of university museums.

Earlier I mentioned institutions with different characteristics and missions – the science centers. The existence of a science center in a university is less obvious (and therefore controversial), particularly when it aims at presenting a mere set of *edutainment* (education + entertainment) hands-on exhibits. However, science centers integrate better in the university's mission when they present a broader view of science and when exhibits are historically contextualised – i.e. if the synthesis of these two philosophies is aimed at and achieved. In this way, university museums of science and natural history can together foster an effective increase in scientific literacy among the public – both among the university community (professors, students and staff) and among secondary school pupils and general visitors, some of whom never entered a university before.

Moreover, the existence of participative scientific exhibitions in university museums can be justified in view of their role as 'test laboratory' for educational and museological innovation in the realm of the education and museological departments.

So far, the university museums mentioned in this text were directly involved in promoting the scientific, teaching and cultural missions of their mother institutions. However, other reasons were behind the creation of other types of university museums, namely the necessity to preserve and eventually exhibit artistic and archival patrimony, inherited from decades or even centuries of the university's existence. In older universities, the creation of these museums is frequently the only way to study, display and therefore protect heritage that would otherwise risk degradation and loss. One can object that heritage could be transferred to existing museums outside the university. However, such a solution is inconvenient because the transfer would out-root memories that are closely linked to the university's activities and contrary to the principle of *in situ* preservation (a golden rule for example in archaeology). Several of the art museums in universities – e.g. the Museum of Sacred Art of the University of Coimbra – were created with that particular purpose in mind.

A particularly interesting case occurs when university museums use their rooms and galleries to exhibit art and archival collections directly related to the history of their mother university – exhibitions that are obviously more relevant in the case of older universities[7].

At the beginning of this text I formulated the question: What is a university museum? The question is not easy to answer in a clear and straightforward way, due to a diverse reality that I tried to depict in its most general aspects. However, if asked to be more precise, I would say that a university museum is a museological institution that collects, studies and exhibits objects belonging to the diverse realms and aspects of a given university. Through these means,

[7] The Museum of Science of the University of Lisbon occupies today a space that since the beginning of the 17th century was used for teaching by several institutions. One of the Museum's permanent galleries is devoted to the history of these institutions, exhibiting original objects and documents belonging to the Museum collections.

it contributes, out of its own initiative or together with other university departments, to the promotion of the scientific, pedagogical or cultural intervention of the university to which it belongs.

As far as cultural intervention is concerned, museums have a fundamental role to play in the achievement of this mission of any modern university. In fact, museums are the most effective instrument that universities have to promote culture in the broadest sense of the term and bring it to the outside community. The environment of a museum, by definition open to everyone, the collections it hosts, the exhibitions it presents, the conferences and free courses it organises, the observations and demonstrations that can take place, projects the university into the community and promotes open and modern culture and mentality.

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Reference

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